In the Claims:

1-17 (Canceled without prejudice)

18. (Currently amended) A method of removing photoresist from a semiconductor substrate, the method comprising:

providing a gas flow to a processing chamber including a hydrogen containing gas as the principal reactive gas for removing the photoresist;

providing power from a first source to the gas within the processing chamber to generate a plasma;

~~providing power from a second source to a substrate support such that the substrate is exposed to plasma products within the processing chamber;~~

using the plasma products to remove the photoresist; and

maintaining a gas pressure within the processing chamber of less than about 200 ~~500~~ mTorr during at least a portion of the time that the substrate is exposed to the plasma products to remove the photoresist.

19. (Currently amended) The method of claim 18, wherein the gas flow includes ~~a~~ the principal gas, an inert diluent gas, and an additive gas.

20. (Canceled without prejudice)

21. (Canceled without prejudice)

22. (Currently Amended) The method of claim 19 ~~20~~, wherein the principal gas is hydrogen, and the inert diluent gas is selected from the group consisting of helium, argon, and nitrogen.

23. (Canceled without prejudice)

24. (Canceled without prejudice)

25. (Currently Amended) The method of claim 19, wherein the principal gas is ~~selected from the group consisting of~~ hydrogen ~~and water vapor~~, and the additive gas is selected from the group consisting of oxygen, methane, ammonia, water vapor, methyl alcohol, ethyl alcohol, nitrous oxide, nitric oxide, nitrogen dioxide, and oxides of sulfur.

26. (Original) The method of claim 18, wherein the gas flow is less than about 3,000 standard cubic centimeters per minute.

27. (Canceled without prejudice)

28. (Original) The method of claim 18, wherein the step of providing a first source of power to the gas within the processing chamber to generate a plasma further comprises providing a power within the range of about 1,000 to 2,500 watts at a frequency of about 13.56 MHz.

29. (Currently Amended) The method of claim 18, ~~wherein the step of~~ further comprising providing power from a second source ~~of power~~ to a substrate support ~~further comprises supplying a bias power to the substrate support~~ within the range of about 0.1 to 2.0 watts/cm^2.

30. (Original) The method of claim 18, further comprising the step of maintaining the substrate at a temperature of less than about 100°C.

31. (Canceled without prejudice)

32. (Original) The method of claim 25, wherein the principal gas is hydrogen, and the gas flow further comprises a halogen.

33-85 (Canceled without prejudice)

86. (New) The method of claim 18, wherein the plasma is formed in the absence of oxygen.

87. (New) The method of claim 86, wherein the plasma is formed in the absence of fluorine.

88. (New) The method of claim 86, wherein the plasma is formed in the absence of fluorine.

89. (New) The method of claim 18, wherein the pressure within the processing chamber is less than 10mTorr.

90. (New) The method of claim 87, wherein the pressure within the processing chamber is less than 10mTorr.

91. (New) The method of claim 18, wherein the hydrogen containing gas is provided at a flow of at least 50 SCCM.

92. (New) The method of claim 87, wherein the hydrogen containing gas is provided at a flow of at least 50 SCCM.

93. (New) The method of claim 18, wherein the hydrogen containing gas is provided at a flow sufficient to provide an etch rate of at least 2,000 Angstroms per minute.

94. (New) The method of claim 18, wherein the gas flow further comprises oxygen at a flow rate substantially lower than the flow rate of the hydrogen containing gas.

95. (New) The method of claim 94, wherein the flow rate of the oxygen is less than about 50 SCCM.

96. (New) The method of claim 87, wherein the gas flow further comprises oxygen at a flow rate substantially lower than the flow rate of the hydrogen containing gas.

97. (New) The method of claim 96, wherein the pressure within the processing chamber is less than 10mTorr.

98. (New) The method of claim 97, wherein the hydrogen containing gas is provided at a flow sufficient to provide an etch rate of at least 2,000 Angstroms per minute.

99. (New) The method of claim 18, wherein the step of providing power from a first source to the gas within the processing chamber to generate a plasma further comprises the step of inductively coupling power from the first source to the gas within the processing.

100. (New) The method of claim 97, wherein the step of providing power from a first source to the gas within the processing chamber to generate a plasma further comprises the step of inductively coupling power from the first source to the gas within the processing.

101. (New) The method of claim 18, further comprising applying a bias to a substrate support.

102. (New) The method of claim 101, wherein the bias is within the range of 30 watts to 400 watts.

103. (New) The method of claim 101, further comprising applying a bias to a substrate support within the range of 30 watts to 400 watts.

104. (New) The method of claim 18, wherein the photoresist is removed in the presence of a low-k dielectric.

105. (New) The method of claim 103, wherein the photoresist is removed in the presence of a low-k dielectric.

106. (New) A method of removing a residue from a semiconductor substrate, the method comprising:

providing a gas flow to a processing chamber including a hydrogen containing gas as the principal reactive gas for removing the photoresist;

providing power from a first source to the gas within the processing chamber to generate a plasma;

using the plasma products to remove the residue; and

maintaining a gas pressure within the processing chamber of less than 200 mTorr during at least a portion of the time that the substrate is exposed to the plasma products to remove the photoresist.

107. (New) The method of claim 106, wherein the plasma is formed in the absence of fluorine.

108. (New) The method of claim 106, wherein the pressure within the processing chamber is less than about 10mTorr.

109. (New) The method of claim 106, wherein the step of providing power from a first source to the gas within the processing chamber to generate a plasma further comprises the step of inductively coupling power from the first source to the gas within the processing.

110. (New) The method of claim 107, wherein the step of providing power from a first source to the gas within the processing chamber to generate a plasma further comprises the step of inductively coupling power from the first source to the gas within the processing.

111. (New) The method of claim 110, further comprising applying a bias to a substrate support within the range of 30 watts to 400 watts.

112. (New) The method of claim 111, wherein the pressure within the processing chamber is less than 10mTorr.

113. (New) The method of claim 106, wherein the residue is removed in the presence of a low-k dielectric.

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114. (New) The method of claim 112, wherein the residue is removed in the presence of a low-k dielectric.